

CLAIM LISTING

1. (Currently Amended) A method for determining the wettability of a particulate surface comprising:

inserting a test device ~~having~~ comprising the particulate surface that is at least partially convex into a test liquid to form a liquid meniscus;

measuring the liquid meniscus to generate a liquid meniscus measurement; and

calculating the wettability of the particulate surface using the liquid meniscus measurement.

~~wherein the test device has a convex cylindrical or a partially cylindrical surface.~~

2. (Original) The method of Claim 1, wherein the step of measuring the liquid meniscus is performed using an optical measuring device.

3. (Original) The method of Claim 1, wherein the liquid meniscus measurement is a height of the liquid meniscus.

4. (Original) The method of Claim 1, wherein the liquid meniscus measurement is an external meniscus profile.

5. (Currently Amended) The method of Claim 1, wherein the test device comprises:
a substrate having a surface area wherein the surface is at least partially convex;
a layer of adhesive material applied to at least a portion of the convex surface area of the substrate; and
a layer of particulate material attached to the adhesive material on the convex surface area to form the particulate surface of the test device.

6. (Currently Amended) A system for determining the wettability of particulate surface comprising:

a test device ~~having~~ comprising the particulate surface wherein the surface is at least partially convex;

a test liquid; and

a measurement device.

~~wherein the test device has a convex cylindrical or a partially cylindrical surface.~~

7. (Original) The system of Claim 6, wherein the measurement device is an optical measuring device.

8. (Currently Amended) The system of Claim 6, wherein the test device comprises:

a substrate having a surface area wherein the surface is at least partially convex;

a layer of adhesive material applied to at least a portion of the convex surface area of the substrate; and

a layer of particulate material attached to the adhesive material on the convex surface area to form the particulate surface of the test device.

9. (Currently Amended) A method for determining the wettability of a particulate surface comprising:

inserting a test device having the particulate surface wherein the particulate surface is at least partially convex into a test liquid to form a liquid meniscus;

measuring the liquid meniscus to generate a liquid meniscus measurement; and

calculating the wettability of the particulate surface using the liquid meniscus measurement;

wherein the test device comprises:

a substrate having a surface area wherein the surface is at least partially convex;

a layer of adhesive material applied to at least a portion of the convex surface area of the substrate; and

a layer of particulate material attached to the adhesive material on the convex surface area to form the particulate surface of the test device.

10. (Previously Presented) The method of Claim 9, wherein the step of measuring the liquid meniscus is performed using an optical measuring device.

11. (Previously Presented) The method of Claim 9, wherein the liquid meniscus measurement is a height of the liquid meniscus.

12. (Previously Presented) The method of Claim 9, wherein the liquid meniscus measurement is an external meniscus profile.

13. (Currently Amended) A system for determining the wettability of particulate surface comprising:

a test device having the particulate surface wherein the particulate surface is at least partially convex;

a test liquid; and

a measurement device,

wherein the test device comprises:

a substrate having a surface area wherein the surface is at least partially convex;

a layer of adhesive material applied to at least a portion of the convex surface area of the substrate; and

a layer of particulate material attached to the adhesive material on the convex surface area to form the particulate surface of the test device.

14. (Previously Presented) The system of Claim 13, wherein the measurement device is an optical measuring device.

15. (New) The method of Claim 1, wherein the liquid meniscus is observed tangentially to the convex portion of the particulate surface.

16. (New) The system of Claim 6, wherein the measurement device is positioned to observe a meniscus tangentially to the convex portion of the particulate surface.

17. (New) The method of Claim 9, wherein the liquid meniscus is observed tangentially to the convex portion of the particulate surface.

18. (New) The system of Claim 13, wherein the measurement device is positioned to observe a meniscus tangentially to the convex portion of the particulate surface.